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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/620,243	07/15/2003	Hans Jacobsen	JACO0002	8919

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EXAMINER

SUHOL, DMITRY

ART UNIT	PAPER NUMBER
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3725

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/620,243	Applicant(s) JACOBSEN, HANS	
	Examiner Dmitry Suhol	Art Unit 3725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 December 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-15, 20, 25-28, 31, 32, 34, 47-51, 53 and 54 is/are pending in the application.
- 4a) Of the above claim(s) 12, 14, 15, 20 and 31 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 54 is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-10, 13, 25-28, 32, 34, 47-51 and 53 is/are rejected.
- 7) ☒ Claim(s) 11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Election/Restrictions

This application contains claims 12, 14-15, 20, 31 drawn to an invention nonelected with traverse in the reply filed on 8/28/2006. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Claim Objections

Claims 50-51 are objected to because of the following informalities: The claims use language inconsistent with the other claims and the specification, for example, the limitations of a "first support structure" and a "second support structure" appear to be used to describe the first and second sector gearing and if so such terminology should be consistent through out the application including the specification. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 48 and 49 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 48, subset d), applicants have removed "the" in the claim language referencing sector gearing. Since sector gears coupled to respective first and second working surfaces have been positively claimed earlier (in subsets a and b) in the claim it is now unclear if applicants are referencing previously claimed sector gearing or a different sector gearing. For purposes of examination it is assumed that the same gearing is being claimed.

Regarding claim 49, the limitation of "between opposed inner edges of the first and working surfaces" appears to be incomplete. It is not clear if applicants are attempting to say "the first and second working surfaces".

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 7, 10, 47 are rejected under 35 U.S.C. 102(b) as being anticipated by Murai '385. Murai discloses a bending die containing all of the claimed elements including, a work support having two planar working surfaces/dies (9) supported in a frame (1, 15) through a first and second support structures (4) where structure (4) are

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adjustable/removable/interchangeable (figure 5a) in order to vary the width between the inner surfaces of the working surfaces (figure 6). A first and second hinge assembly as claimed in claim 1 and 7 is shown as hinge spring (12) located on both ends of the apparatus.

Claim 50 is rejected under 35 U.S.C. 102(b) as being anticipated by Glud '841. Glud discloses a device for bending sheet metal containing most of the claim elements including, a first and second movable dies (arms 7, 8) having a working surface (read onto surfaces 13, 14) with inner edges (central portion of inner edges 17, 18), a frame (1, 3, 4) having a first and second sections (left and right sections), a first and second support structures (members 36). A separation gap as required by claim 50 is shown in figure 2, while the adjustability of the device is encompassed by wedge members 6 and frame members 4.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 5, 13, 16, 25-26, 29-30, 32, 34, 36, 49, 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al '766 in view of Kimura et al '334. Takahashi discloses a bending die for sheet metal containing most of the claimed

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elements including, a first and second movable components (16, 18, 26, 28) having a planar work surface (surface top) each having an adjacent inner edges with a substantially fixed separation between the two regardless of rotational angular displacement (figures 5A-5C). A hinge assembly as required by claims 6, 29 is read onto the hinge between members 16 and 18 as it is present at both ends of the bending die. A resisting element as required by claims 13 and 34 is shown as hydraulic chamber 50 and associated parts. Limitations of claim 32 are shown in figure 2. Lacking any clear distinguishing features limitations of claim 2 are read onto the gap between members (16) and (18).

Kimura is relied upon to teach that it is known to provide movable components in a bending device where each component is comprised of a parallel adjacent sector gears (25) located on the ends of the work supports (figure 3) which in turn mesh with a linear racks (35) attached to the frame (figure 3, 4b, 4c). Therefore it would have been obvious to one having ordinary skill in the art, at the time of the claimed invention, to have provided sector gearing meshing with linear racks in place of members 26 and 28 on frame member 12, as taught by Kimura, for the purpose of providing a bending die with improved product accuracy at a relatively low production cost. Applicants have incorporated newly added limitations of a hinge assembly coupling the first and second sector gears where the rotational displacement of either the first or second working surface results in the opposite rotational displacement of the other working surface. However in is the examiners position when the teachings of Takahashi and Kimura are

combined as suggested by the examiner the resulting structure would be one where the sector gearing is coupled through the hinge and the associated movable members.

With respect to claim 49, the claimed hinge assembly (as claimed by the applicants are comprised of sector gearing and rack gearing) and is therefore considered to be encompassed by the sector gearing and associated racks as obviated by Takahashi and taught by Kimura as combined above.

Claims 1-5, 7-10, 13, 25-28, 32, 34, 47, 49-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murai '385 in view of Kimura et al '334. Murai discloses a die for being sheet metal containing most of the claim elements including, a first and second movable components (9) having a working surface (tops of surfaces 9) with inner edges (inner edges of members 9), a frame (1, 4, 15), a hinge assembly (springs 12 and elements associated therewith). A separation gap as required by claims 2-4, 50 are shown in figures 1 and 6, while the adjustability of the device is encompassed by members 4 (considered to be the support structure as required by claim 50) as shown in figures 5a and 6.

Kimura is relied upon to teach that it is known to provide movable components in a bending where each component is comprised of a sector gears (25) located on the ends of the work supports (figure 3) which in turn mesh with a linear racks (35) attached to a frame (figure 3, 4b, 4c). Therefore it would have been obvious to one having ordinary skill in the art, at the time of the claimed invention, to have provided sector gearing meshing with linear racks in order to facilitate accurate and controlled

movement of members 9 of Murai, for the purpose of providing a bending die with improved product accuracy at a relatively low production cost.

Claims 7-10, 25-26, 28, 32, 34, 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al '766 and Kimura et al '334, as stated above, and further in view of Murai '385. Murai is relied upon to teach that it is known to provide a bending die like that of Takahashi with a spring (12) read onto a hinge assembly for the purpose of returning the working surfaces to their original positions. Therefore it would have been obvious to incorporate a spring in the device of Takahashi for the reasons as taught by Murai. With respect to claim 25, when the references are modified as suggested the spring hinge assembly (12) would couple the sector gears and not extend between the inner edges of the first and second dies.

Claim 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glud '841 in view of Kimura et al '334. Glud discloses a die for being sheet metal containing most of the claim elements including, a first and second movable components (arms 7, 8) having a working surface (read onto surfaces 13, 14) with inner edges (central portion of inner edges 17, 18), a frame (1, 3, 4), where it is considered that the separation between edges 17 and 18 encompasses the phrase "substantially fixed separation". A separation gap as required by claim 50 is shown in figure 2, while the adjustability of the device is encompassed by wedge members 6.

Kimura is relied upon to teach that it is known to provide movable components in a bending where each component is comprised of a sector gears (25) located on the ends of the work supports (figure 3) which in turn mesh with a linear racks (35) attached to the frame (figure 3, 4b, 4c). Therefore it would have been obvious to one having ordinary skill in the art, at the time of the claimed invention, to have provided sector gearing meshing with linear racks on the frame member, as taught by Kimura, for the purpose of providing a bending die with improved product accuracy at a relatively low production cost.

Allowable Subject Matter

Claim 11 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 48 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

Claim 54 is allowed.

Response to Arguments

Applicant's arguments filed 12/20/2007 have been fully considered but they are not persuasive. Applicants argue that the combination of Takahashi and Kimura fails to disclose the claimed structural features. In response the examiner points out that as stated above the combination of the two references would result in the claimed features.

The examiner is in no way suggesting that the hinge of Takahashi be removed but rather when the two references are combined the resulting structure would read on applicants claim language. In other words the sector gearing of Kimura when incorporated into the device of Takahashi would result in the coupled gearing through the hinge and members 16 and 18 of Takahashi.

Applicants further argue that it would not have been obvious to combine the Takahashi and Kimura references since one is directed to a bending sheet metal and one is directed to tube bending with out the use of hindsight reasoning. In response it is pointed out that both devices are directed to metal bending machines and Kimura clearly teaches advantages of his mechanical structure as producing metallic members with improved accuracy at a low production cost. Therefore an artisan having ordinary skill in the art would have looked to the teachings of both Takahashi and Kimura at the time of the claimed invention.

Regarding arguments with respect to claim 49, applicants claim that their hinge assemblies comprise the sector gearing and rack gears in which case (for purposes of claim 49) the combination of the above references clearly teach such structure and the piano hinge is not relied upon to be part of the claimed structure.

The remainder of the arguments are addressed in the above office action.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dmitry Suhol whose telephone number is 571-272-4430. The examiner can normally be reached on Mon - Friday 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Derris Banks can be reached on (571) 272-4419. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dmitry Suhol/
Primary Examiner, Art Unit 3725

ds